

AMENDMENTS TO SPECIFICATION:

Amend Paragraph 0084 of the published application as follows:

FIG. 2 is a photograph of a microfluidic biochip 220 as actually manufactured. Biochip 220 includes a first area 202 having electrode-containing cavities or chambers 204 of 80 by 80 microns and a second area of electrode-containing cavities or chambers 206 of 850 by 530 microns, with a common depth of 10 microns. Cavities 204 are connected to one another and to a pair of tube receptacles or grooves 208 and 210 by a branching channel structure or series of channel segments 212, while cavities 206 communicate with each other and with a respective pair of microbore-tube receptacles or in/out ports 214 and 216 via a branching channel structure or series of channel segments 218. Cavities 204 contain simple electrodes 36 as shown schematically in FIG. 1, whereas cavities 206 contain electrodes (not designated) having several interdigitated segments.

Amend Paragraph 0085 of the published application as follows:

FIGS. 3 and 4 are scanning electron micrographs, on different scales, of a portion of biochip 220. An inlet port or expanded inlet section 222 of channel 212 is disposed between a respective receptacle or groove 208 or 210 and a substantially smaller segment of channel 212 extending to cavities or chambers 204. Inlet port or expanded inlet

section 222 is of substantially smaller flow cross-section than receptacle or groove 208 or
210 and substantially smaller flow cross-section than the segment of channel 212
extending to cavities or chambers 204.